AMENDMENTS TO THE CLAIMS

1-15. (Canceled)

16. (New) A digital camera comprising:

an auto exposure system for determining an auto exposure value responsive to the image statistics of a scene;

a live preview display system for displaying a live preview of the scene comprising

an image capture device for producing a digital signal having an amplitude and representing an image frame of the live preview of the scene,

a programmable amplifier coupled to the image capture device for adjusting the digital signal amplitude,

a controller coupled to the programmable amplifier for enabling an overlay icon representing a soft key control for adjusting the digital signal amplitude when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared or dark; and

an image display coupled to the programmable amplifier for displaying the image frame and the overlay icon.

17. (New) The digital camera of claim 16 further comprising:

a frame refresh controller coupled to the image capture device for refreshing the image frame at a frame rate.

18. (New) The digital camera of claim 16 further comprising:

a frame refresh controller coupled to the image capture device for refreshing the image frame at a frame rate that varies in response to variation of the auto exposure time for the image frame.

19. (New) The digital camera of claim 16 further comprising:

a frame refresh controller coupled to the image capture device for refreshing the image frame at a frame rate that varies in response to operation of the soft key control.

20. (New) The digital camera of claim 16 further comprising:

means in the controller for testing the auto exposure time against a first predetermined value to determine whether the image frame is likely to be smeared; and

means in the controller for testing the auto exposure time against a second predetermined value to determine whether the image frame is likely to be dark.

21. (New) The digital camera of claim 16 further comprising:

means in the controller for producing a first overlay icon representing a soft key control for adjusting the digital signal amplitude over a range; and

means in the controller for producing a second overlay icon representing an end-of-range condition of the soft key control.

22. (New) The digital camera of claim 16 further comprising:

in the auto exposure controller, means for determining a range of auto exposure values within which a predetermined noise limit for the image of a scene is not exceeded; and

in the controller, means coupled to the programmable amplifier for adjusting the digital signal amplitude to bring the image frame noise above the predetermined noise limit when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared.

23. (New) The digital camera of claim 16 further comprising:

in the auto exposure controller, means for determining a auto exposure value range within which a predetermined noise limit for the image of a scene is not exceeded; and

in the controller, means coupled to the programmable amplifier for adjusting the digital signal amplitude to move the exposure value outside of the auto exposure value range when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared.

24. (New) In a digital camera having an auto exposure system for determining an auto exposure time responsive to the image statistics of a scene, a method for displaying a live preview of the scene comprising the steps of:

(a) producing a digital signal having an amplitude and representing an image frame of the live preview of the scene;

(b) determining an auto exposure time for the image frame statistics; and

(c) displaying the image frame, including the step of

(c.1) enabling an overlay icon representing a soft key control for adjusting the digital signal amplitude when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared or dark.

25. (New) The method of claim 24 further comprising the step of:

(d) repeating the three steps (a)-(c) at a frame rate.

26. (New) The method of claim 24 further comprising the step of:

(d) repeating the four steps (a)-(c) at a frame rate that varies in response to variation of the auto exposure time for the image frame.

27. (New) The method of claim 24 further comprising the step of:

(d) refreshing the image frame at a frame rate that varies in response to operation of the soft key control.

28. (New) The method of claim 24 further comprising the steps of:

(c.1) comparing the auto exposure time with a first predetermined value above which the image frame is likely to be smeared; and

(c.2) comparing the auto exposure time with a second predetermined value above which the image frame is likely to be dark.

29. The method of claim 24 further comprising the steps of:

(c.1.1) enabling a first overlay icon representing a soft key control for adjusting the digital signal amplitude over a range when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared or dark; and

(c.1.2) enabling a second overlay icon representing an end-of-range condition of the soft key control.

30. (New) The method of claim 24, wherein the auto exposure controller includes means for determining a auto exposure value range within which a predetermined noise limit for the image of a scene is not exceeded, the method further comprising the step of:

(d) adjusting the digital signal amplitude to bring the image frame noise above the predetermined noise limit when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared.

31. (New) The method of claim 24, wherein the auto exposure controller includes means for determining a auto exposure value range within which a predetermined noise limit for the image of a scene is not exceeded, the method further comprising the step of:

(d) adjusting the digital signal amplitude to move the exposure value outside of the auto exposure value range when the auto exposure time for the image frame exceeds a predetermined value above which the image frame is likely to be smeared.